

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**NOVEMBER/DECEMBER 1996 SAMPLING
FORMS AND ORIGINAL DATA SHEETS**

MARCH 1997

**IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 3**

RECEIVED 3/5/1997

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**STATISTICAL EVALUATION OF
NOVEMBER/DECEMBER 1996
GROUNDWATER QUALITY DATA**

JANUARY 1997

**IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 3**

RECEIVED 3/5/1997

THE
JOURNAL OF THE
ROYAL ANTHROPOLOGICAL INSTITUTE

VOLUME 100

CONTENTS
PART I
PART II

1970

THE JOURNAL OF THE
ROYAL ANTHROPOLOGICAL INSTITUTE
1970

1970

Hydrometrics, Inc.

2727 Airport Road • Helena, Montana 59601 • (406) 443-4150 • FAX (406) 443-4155

File: Lewis & Clark Co.
City of Helena (contract)
grid wtr (conseq) #90

RECEIVED
OCT 25 1996
Montana Department of
Environmental Quality
Waste Management Division

October 22, 1996

Ms. Pat Potts
Montana Department of Environmental Quality
Solid Waste Management Program
Cogswell Building
Capitol Station
Helena, MT 59620

Dear Pat,

Enclosed for your review are the proposed monitoring sites and analytical schedule for the Fall 1996 groundwater monitoring at the Helena Landfill. This sampling schedule includes the changes which you requested in your September 23, 1996 letter to Ted Hill (copy attached). Sampling is scheduled to begin November 11, 1996.

Please call if you have any questions or comments.

Sincerely,

Steven K. Downs

Steven K. Downs, P.E.
Engineering and Environmental
Services Manager

c: Mr. Ted Hill, City of Helena

MEMORANDUM

TO: Rick Brown
FROM: Steve Downs
DATE: October 22, 1996
RE: City of Helena - November 1996 Sampling

Attached is a list of wells which need to be sampled for the Helena Landfill project. Please sample each of these wells for the parameters denoted on the list. The monitoring wells should be sampled in the following order:

- 1) 83-6 2) HL-94-1 3) HL-94-2 4) HL-94-3 5) INF. GALLERY 6) HL-90-3 7) I-2
8) I-4 9) MPC-2 10) HL-90-2 11) HL-90-1 12) MPC-1 13) MPC-5 14) EPA-1

You will need to get a key from Mike Downs at MPC for well MPC-5. All of the monitoring wells except I-2, I-4, Infiltration Gallery, MPC-2 and MPC-5 will be sampled for the entire Table 1 parameter list. These five wells will be sampled only for the VOC's portion of the list. We also need to include a DI blank, a rinseate blank and a duplicate of HL-90-3.

In addition to this sampling, it would be helpful to obtain water level measurements in as many of the wells on the attached list as possible, so that we can produce an accurate potentiometric surface map.

We also need to sample the residential wells denoted on the attached list (except for well #84 which will be sampled by the Water Quality District). These wells will be sampled for VOC's only. Below are addresses and numbers for the domestic well owners.

SITE	NAME	ADDRESS	PHONE
31	Dale Gardner	1430 Brady	442-6314
5	Sandra Colvin	350 Custer	443-7463
13	Ed Johnson	102 Oakwood	442-8948
40	Ed Hartman	2509 Teakwood	442-1331
52	Elton Hartze	Custer and Gr. Meadow (trailer court)	443-1622
57	Gwen Francis	112 Dunbar	442-2739
75	Jack Creach	104 Reed	442-1855
93	R. Hecht	932 Aspen	443-5510
96	Ed McHugh	see map	442-0013

Please let me know if you have any questions or if anything is unclear.

MEMORANDUM

TO : Mr. Tolson
 FROM : Mr. [Name]
 DATE: [Date]
 SUBJECT: [Subject]

Reference is made to the letterhead memorandum dated [Date] from the [Department] to the [Bureau] regarding the [Subject].

The [Bureau] has reviewed the [Subject] and has determined that the [Subject] is [Subject].

It is recommended that the [Subject] be [Subject] and that the [Subject] be [Subject].

The [Bureau] has determined that the [Subject] is [Subject] and that the [Subject] be [Subject].

The [Bureau] has determined that the [Subject] is [Subject] and that the [Subject] be [Subject].

DATE	BY	REMARKS
10/1/52	[Name]	[Remarks]
10/2/52	[Name]	[Remarks]
10/3/52	[Name]	[Remarks]
10/4/52	[Name]	[Remarks]
10/5/52	[Name]	[Remarks]
10/6/52	[Name]	[Remarks]
10/7/52	[Name]	[Remarks]
10/8/52	[Name]	[Remarks]
10/9/52	[Name]	[Remarks]
10/10/52	[Name]	[Remarks]
10/11/52	[Name]	[Remarks]
10/12/52	[Name]	[Remarks]
10/13/52	[Name]	[Remarks]
10/14/52	[Name]	[Remarks]
10/15/52	[Name]	[Remarks]
10/16/52	[Name]	[Remarks]
10/17/52	[Name]	[Remarks]
10/18/52	[Name]	[Remarks]
10/19/52	[Name]	[Remarks]
10/20/52	[Name]	[Remarks]
10/21/52	[Name]	[Remarks]
10/22/52	[Name]	[Remarks]
10/23/52	[Name]	[Remarks]
10/24/52	[Name]	[Remarks]
10/25/52	[Name]	[Remarks]
10/26/52	[Name]	[Remarks]
10/27/52	[Name]	[Remarks]
10/28/52	[Name]	[Remarks]
10/29/52	[Name]	[Remarks]
10/30/52	[Name]	[Remarks]
10/31/52	[Name]	[Remarks]

The [Bureau] has determined that the [Subject] is [Subject] and that the [Subject] be [Subject].

HELENA LANDFILL			
Helena Landfill November 1996			
SAMPLE SITE AND PARAMETER LIST			
SITE NAME	PARAMETERS		
Monitor wells (In order to be sampled)			
83-6	Table 1		
HL-94-1	Table 1		
HL-94-2	Table 1		
HL-94-3	Table 1		
INF. GALLERY	Table 1 VOC's only		
HL-90-3	Table 1		
HL-90-3 (Duplicate)	Table 1		
I-2	Table 1 VOC's only		
I-4	Table 1 VOC's only		
MPC-2	Table 1 VOC's only		
HL-90-2	Table 1		
HL-90-1	Table 1		
MPC-1	Table 1		
MPC-5	Table 1 VOC's only		
EPA-1	Table 1		
Residential Wells (well #84 to be sampled by L&C County WQD)			
5	Table 1 VOC's only		
13	Table 1 VOC's only		
31	Table 1 VOC's only		
40	Table 1 VOC's only		
52	Table 1 VOC's only		
57	Table 1 VOC's only		
75	Table 1 VOC's only		
84	Table 1 VOC's only		
93	Table 1 VOC's only		
96	Table 1 VOC's only		
DI BLANK	Table 1		
RINSATE BLANK	Table 1		

SITE NAME		PARAMETER	
London Water Supply Co. Ltd.		TAP 1	
H. 101		TAP 2	
H. 102		TAP 3	
H. 103		TAP 4	
H. 104		TAP 5	
H. 105		TAP 6	
H. 106		TAP 7	
H. 107		TAP 8	
H. 108		TAP 9	
H. 109		TAP 10	
H. 110		TAP 11	
H. 111		TAP 12	
H. 112		TAP 13	
H. 113		TAP 14	
H. 114		TAP 15	
H. 115		TAP 16	
H. 116		TAP 17	
H. 117		TAP 18	
H. 118		TAP 19	
H. 119		TAP 20	
H. 120		TAP 21	
H. 121		TAP 22	
H. 122		TAP 23	
H. 123		TAP 24	
H. 124		TAP 25	
H. 125		TAP 26	
H. 126		TAP 27	
H. 127		TAP 28	
H. 128		TAP 29	
H. 129		TAP 30	
H. 130		TAP 31	
H. 131		TAP 32	
H. 132		TAP 33	
H. 133		TAP 34	
H. 134		TAP 35	
H. 135		TAP 36	
H. 136		TAP 37	
H. 137		TAP 38	
H. 138		TAP 39	
H. 139		TAP 40	
H. 140		TAP 41	
H. 141		TAP 42	
H. 142		TAP 43	
H. 143		TAP 44	
H. 144		TAP 45	
H. 145		TAP 46	
H. 146		TAP 47	
H. 147		TAP 48	
H. 148		TAP 49	
H. 149		TAP 50	
H. 150		TAP 51	
H. 151		TAP 52	
H. 152		TAP 53	
H. 153		TAP 54	
H. 154		TAP 55	
H. 155		TAP 56	
H. 156		TAP 57	
H. 157		TAP 58	
H. 158		TAP 59	
H. 159		TAP 60	
H. 160		TAP 61	
H. 161		TAP 62	
H. 162		TAP 63	
H. 163		TAP 64	
H. 164		TAP 65	
H. 165		TAP 66	
H. 166		TAP 67	
H. 167		TAP 68	
H. 168		TAP 69	
H. 169		TAP 70	
H. 170		TAP 71	
H. 171		TAP 72	
H. 172		TAP 73	
H. 173		TAP 74	
H. 174		TAP 75	
H. 175		TAP 76	
H. 176		TAP 77	
H. 177		TAP 78	
H. 178		TAP 79	
H. 179		TAP 80	
H. 180		TAP 81	
H. 181		TAP 82	
H. 182		TAP 83	
H. 183		TAP 84	
H. 184		TAP 85	
H. 185		TAP 86	
H. 186		TAP 87	
H. 187		TAP 88	
H. 188		TAP 89	
H. 189		TAP 90	
H. 190		TAP 91	
H. 191		TAP 92	
H. 192		TAP 93	
H. 193		TAP 94	
H. 194		TAP 95	
H. 195		TAP 96	
H. 196		TAP 97	
H. 197		TAP 98	
H. 198		TAP 99	
H. 199		TAP 100	

HELENA LANDFILL - JANUARY 1996 POTENTIOMETRIC DATA

SITE	MARKING POINT ELEVATION	DEPTH TO SWL (NOV. 1996)	DEPTH TO SWL (JAN. '96)	WATER TABLE ELEVATION
HL-90-1	3942.48		50.34	3892.14
HL-90-2	3950.96		46.60	3904.36
HL-90-3	3958.29		56.57	3901.72
MPC-1	3946.08		21.00	3925.08
MPC-2	3936.09		15.92	3920.17
94-1	3990.53		53.76	3936.77
94-2	3968.14		31.10	3937.04
94-3	3967.79		34.51	3933.28
83-6	3990.89		11.34	3979.55
13	3927.75		na	na
19	3885.76		na	na
26	3968.96		28.71	3940.25
28	3960.08		79.57	3880.51
41	3906.12		na	na
90	3934.1		na	na
92	3952.2		49.11	3903.09
I-1	3899.59		103.63	3795.96
I-2	3920.35		36.75	3883.60
I-4	3923.7		na	na
I-5	3954.88		59.17	3895.71
I-6	3972.93		58.83	3914.10
82-3	3973.51		na	na
MPC-3	3981.78		44.27	3937.51
MPC-4	3981.68		41.75	3939.93
MPC-5	3990.12		52.88	3937.24
MPC-6	3981.28		44.1	3937.18
EPA-1	3981.08		44.96	3936.12
EPA-2	3987.21		dry	dry
EPA-4	3973.83		63.86	3909.97
HL-1	3990.22		17.06	3973.16
Inf. Gallery	3918.89		6.06	3912.83

DATE	TIME	WATER	TEMP.	WIND	WAVE
10-20-61	10:00	10.0	10.0	10.0	10.0
10-20-61	11:00	11.0	11.0	11.0	11.0
10-20-61	12:00	12.0	12.0	12.0	12.0
10-20-61	13:00	13.0	13.0	13.0	13.0
10-20-61	14:00	14.0	14.0	14.0	14.0
10-20-61	15:00	15.0	15.0	15.0	15.0
10-20-61	16:00	16.0	16.0	16.0	16.0
10-20-61	17:00	17.0	17.0	17.0	17.0
10-20-61	18:00	18.0	18.0	18.0	18.0
10-20-61	19:00	19.0	19.0	19.0	19.0
10-20-61	20:00	20.0	20.0	20.0	20.0
10-20-61	21:00	21.0	21.0	21.0	21.0
10-20-61	22:00	22.0	22.0	22.0	22.0
10-20-61	23:00	23.0	23.0	23.0	23.0
10-20-61	24:00	24.0	24.0	24.0	24.0
10-20-61	01:00	25.0	25.0	25.0	25.0
10-20-61	02:00	26.0	26.0	26.0	26.0
10-20-61	03:00	27.0	27.0	27.0	27.0
10-20-61	04:00	28.0	28.0	28.0	28.0
10-20-61	05:00	29.0	29.0	29.0	29.0
10-20-61	06:00	30.0	30.0	30.0	30.0
10-20-61	07:00	31.0	31.0	31.0	31.0
10-20-61	08:00	32.0	32.0	32.0	32.0
10-20-61	09:00	33.0	33.0	33.0	33.0
10-20-61	10:00	34.0	34.0	34.0	34.0
10-20-61	11:00	35.0	35.0	35.0	35.0
10-20-61	12:00	36.0	36.0	36.0	36.0
10-20-61	13:00	37.0	37.0	37.0	37.0
10-20-61	14:00	38.0	38.0	38.0	38.0
10-20-61	15:00	39.0	39.0	39.0	39.0
10-20-61	16:00	40.0	40.0	40.0	40.0
10-20-61	17:00	41.0	41.0	41.0	41.0
10-20-61	18:00	42.0	42.0	42.0	42.0
10-20-61	19:00	43.0	43.0	43.0	43.0
10-20-61	20:00	44.0	44.0	44.0	44.0
10-20-61	21:00	45.0	45.0	45.0	45.0
10-20-61	22:00	46.0	46.0	46.0	46.0
10-20-61	23:00	47.0	47.0	47.0	47.0
10-20-61	24:00	48.0	48.0	48.0	48.0
10-20-61	01:00	49.0	49.0	49.0	49.0
10-20-61	02:00	50.0	50.0	50.0	50.0
10-20-61	03:00	51.0	51.0	51.0	51.0
10-20-61	04:00	52.0	52.0	52.0	52.0
10-20-61	05:00	53.0	53.0	53.0	53.0
10-20-61	06:00	54.0	54.0	54.0	54.0
10-20-61	07:00	55.0	55.0	55.0	55.0
10-20-61	08:00	56.0	56.0	56.0	56.0
10-20-61	09:00	57.0	57.0	57.0	57.0
10-20-61	10:00	58.0	58.0	58.0	58.0
10-20-61	11:00	59.0	59.0	59.0	59.0
10-20-61	12:00	60.0	60.0	60.0	60.0
10-20-61	13:00	61.0	61.0	61.0	61.0
10-20-61	14:00	62.0	62.0	62.0	62.0
10-20-61	15:00	63.0	63.0	63.0	63.0
10-20-61	16:00	64.0	64.0	64.0	64.0
10-20-61	17:00	65.0	65.0	65.0	65.0
10-20-61	18:00	66.0	66.0	66.0	66.0
10-20-61	19:00	67.0	67.0	67.0	67.0
10-20-61	20:00	68.0	68.0	68.0	68.0
10-20-61	21:00	69.0	69.0	69.0	69.0
10-20-61	22:00	70.0	70.0	70.0	70.0
10-20-61	23:00	71.0	71.0	71.0	71.0
10-20-61	24:00	72.0	72.0	72.0	72.0

File CHHLQ1
027/0054/0034

DEPARTMENT OF
ENVIRONMENTAL QUALITY
PERMITTING & COMPLIANCE DIVISION
SOLID WASTE MANAGEMENT PROGRAM
406/444-1430

FAX # (406) 444-1499



STATE OF MONTANA

OFFICE LOCATION: 2209 PHOENIX AVE.
HELENA, MONTANA

MAILING ADDRESS: PO BOX 200901
HELENA, MT 59620-0901

September 23, 1996

Ted Hill
City of Helena
316 North Park
Helena, Montana 59623

RE: CITY OF HELENA CLASS II LANDFILL (INACTIVE) - LICENSE NO.90
RECEIPT OF THE SPRING/MAY 22 THROUGH 28, 1996 GROUND WATER
MONITORING RESULTS

Dear Mr. Hill:

Results from the Spring 1996 semi-annual Assessment Ground Water Monitoring event conducted from May 22 through 28, 1996 at the City of Helena Class II Landfill (inactive) were received by the Program on September 15, 1996. Analytical results appear to be similar to those from previous sampling events and generally display a gradual decreasing trend in chemical constituent concentrations. In reviewing the ground water monitoring network presently being sampled, the Program suggests that wells I-4 and I-2, located on the north side of the batch fields, should be sampled instead of I-1 which is located farther north and farther from the contaminant plume(s) presently associated with the landfill. Please make a note of this request for the next sampling event (i.e., Fall 1996).

Evidence of influences from various sources across the urban-industrial area are apparent, but the relative degree or magnitude of the sources and the associated chemical constituents are not straightforward. Recently detected impacts from historical contamination found in the ground water at the Montana Power Company property located across Main Street from the City's landfilled areas are currently being evaluated by the state Superfund Program.

Following the public meeting held by the City on March 26, 1996 to discuss the Corrective Measures selection and alternatives for compliance with ground water enforcement standards, the Program approved a landfill gas extraction system to be located in the older landfill disposal area behind the YMCA. This gas extraction system will serve as the initial approach to ground water remediation at the relevant point of compliance (RPOC) for the more recently inactive (1994) landfill area. After two years of active gas extraction, including quarterly sampling for volatile

Ted Hill

Page 2

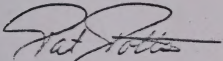
September 19, 1996

organic compounds (VOCs), the effectiveness of the remedy will be evaluated to determine if ground water remediation is proceeding at an efficient rate.

In talking with you on September 19, 1996, you explained to me that the City was in the process of selecting a design engineer for the landfill gas extraction system and that the request for proposals would close on September 27, 1996. You also were helpful in informing me about the status of the YMCA building's gas remediation plan. Apparently, installation/construction of the positive pressure system for the building has been completed and you are anticipating operation of the system in the near future.

The Program appreciates the update on remediation activities concerning the landfill. With regard to the ground water and the exceedances of enforcement standards (e.g., maximum contaminant levels), the facility remains under Corrective Measure Actions status and in the Assessment Monitoring Phase.

Sincerely,



Pat Potts

Environmental Specialist

cc: Steve Downs, Hydrometrics, Inc., 2727 Airport Road, Helena, MT 59601
Kim Milburn, City of Helena, 316 North Park Avenue, Helena, MT 59623
Bill Verwolf, City of Helena Manager, 316 N. Park Ave., Helena, MT 59624
Vivian Drake, City-County Building, 316 N. Park Ave., P.O. Box 1723, Helena, MT 59624

path: sw\l&chel.s96

file: Lewis & Clark Co./City of Helena Class II (inactive)/grd wtr (corresp)

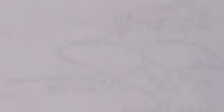
Page 2

September 12, 1982

Grand water remediation is proceeding at an efficient rate. The city council of the county will be requested to determine if

is asking with you on September 12, 1982, you requested to see that the City was in the process of selecting a design engineer for the landfill gas collection system and that the request for proposals would close on September 27, 1982. You also were helpful in informing me about the status of the YMCA building's gas remediation plan. Apparently, remediation work on the landfill gas collection system for the building has been completed and you are participating operation of the system in the near future.

The program requires the design of remediation activities concerning the landfill. With regard to the ground water and the collection of effluent gas (e.g., methane) consideration is also the landfill gas collection system. Methane is a gas and in the atmosphere is a greenhouse gas.



Very truly,
Yours,

Environmental Specialist

Enclosed for the County of Santa Clara is a copy of the report titled "Landfill Gas Collection System Design" dated September 12, 1982. The report was prepared by the County of Santa Clara and the City of San Jose. The report describes the design of the landfill gas collection system for the City of San Jose. The report also includes a copy of the report titled "Landfill Gas Collection System Design" dated September 12, 1982. The report was prepared by the County of Santa Clara and the City of San Jose. The report describes the design of the landfill gas collection system for the City of San Jose.

Very truly,
Yours,
Environmental Specialist

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

MAY 1996 LABORATORY RESULTS SHEETS

SEPTEMBER 1996

**IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 3**

RECEIVED 9/19/1996

11000
CITY OF NEWARK
OFFICE OF THE
CITY CLERK

HYDROGRAPHIC

NEW YORK STATE DEPARTMENT OF THE ENVIRONMENT

NEW YORK STATE DEPARTMENT OF THE ENVIRONMENT

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HYDROMETRICS

**STATISTICAL EVALUATION OF MAY 1996
GROUNDWATER QUALITY DATA**

AUGUST 1996

**IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 3**

RECEIVED 8/15/1996

Closed
City of Helena, Montana
Invoice Number 90

INSTRUCTIONS

REQUIRE ALL DATA TO BE
COURTESY OF THE QUALITY DATA

DATE 8/1/90

WITH ALL THE INFORMATION
MONITORING REPORT IS A MUST
FOR ALL CITIES

RECEIVED 8/1/90

Hydrometrics, Inc.

2727 Airport Road • Helena, Montana 59601 • (406) 443-4150 • FAX (406) 443-4155

File: Lewis & Clark Co
City of Helena (inactive)
gnd wtr (corr)



January 4, 1996

Mr. Pat Crowley
Montana Department of Environmental Quality
Solid Waste Management Program
Cogswell Building
Capitol Station
Helena, MT 59620

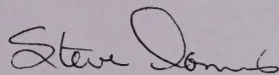
Dear Pat,

This letter is to update you on the status of the revisions to the Helena Landfill Corrective Measures Study. Much of the text which needs to be revised has already been revised, however, we have not received water quality data from the laboratory for the December 1995 samples yet. This data will include monitoring data from the MPC wells located east of the landfill, and this data may have significant impacts on the corrective measures study. We will complete the revisions as soon as we receive and evaluate this new data, and will forward a revised (cross-outs and redline) copy to you for your review. This should take no longer than two weeks.

We have also received a conceptual plan and estimated cost for the positive pressure system at the YMCA from a mechanical engineering contractor. This system will be designed and installed as soon as possible.

Please call you have any questions.

Sincerely,



Steven K. Downs, P.E.
Engineering and Environmental
Services Manager

c: Mr. Kim Milburn, City of Helena
Mr. Ted Hill, City of Helena
Ms. Pat Potts, MDEQ
Mr. Jim Wilbur, MDEQ

SOLID WASTE PROGRAM ROUTE SLIP

Initial

3

Date

9/19/96

☐ **NEW APPLICATION**

Jim W.
Jon D.
Proof
Cathy
Roger

Initial / Date

☐ **NEW LICENSE**

Jim W.
Jon D.
Proof
Carol
Cathy
Roger

Initial / Date

☐ **HEALTH OFFICER CARD**

Jim W.
Carol
Cathy

Initial / Date

☐ **INSPECTIONS**

Pat C.
Jon D.
Proof
Carol
Roger

Initial / Date

☐ **INTERIM CLOSURES**

Jim W.
Jon D.
Proof
Carol
Cathy
Roger

Initial / Date

☐ **CLOSURES**

Jim W.
Jon D.
Proof
Carol
Cathy
Roger

Initial / Date

☐ **CHANGE IN LICENSE
FOR FEE STATUS**

Jim W.
Jon D.
Proof
Cathy
Roger

Initial / Date

☐ **COMPLAINTS**

Pat C.
Jon D.
Proof
Roger
Carol (filing & DBase)

Initial / Date

☐ **GENERAL CORRESPONDENCE**

Pat C./Jim W.
Jon D.
Proof
Roger

Initial / Date

☒ **MISCELLANEOUS** Grd Wtr.

Proof
(Pat C.)
Jon D.

Initial / Date

Tem 9-17-96
PAC 9/23
Jon D 9-19-96
Mail 9-23-TPM

Sw/14chel. S96

Lewis & Clark Co
#90

DEPARTMENT OF
ENVIRONMENTAL QUALITY
PERMITTING & COMPLIANCE DIVISION
SOLID WASTE MANAGEMENT PROGRAM
406/444-1430

FAX # (406) 444-1499



STATE OF MONTANA

OFFICE LOCATION: 2209 PHOENIX AVE.
HELENA, MONTANA

MAILING ADDRESS: PO BOX 200901
HELENA, MT 59620-0901

September 23, 1996

Ted Hill
City of Helena
316 North Park
Helena, Montana 59623

RE: CITY OF HELENA CLASS II LANDFILL (INACTIVE) - LICENSE NO.90
RECEIPT OF THE SPRING/MAY 22 THROUGH 28, 1996 GROUND WATER
MONITORING RESULTS

Dear Mr. Hill:

Results from the Spring 1996 semi-annual Assessment Ground Water Monitoring event conducted from May 22 through 28, 1996 at the City of Helena Class II Landfill (inactive) were received by the Program on September 15, 1996. Analytical results appear to be similar to those from previous sampling events and generally display a gradual decreasing trend in chemical constituent concentrations. In reviewing the ground water monitoring network presently being sampled, the Program suggests that wells I-4 and I-2, located on the north side of the batch fields, should be sampled instead of I-1 which is located farther north and farther from the contaminant plume(s) presently associated with the landfill. Please make a note of this request for the next sampling event (i.e., Fall 1996).

Evidence of influences from various sources across the urban-industrial area are apparent, but the relative degree or magnitude of the sources and the associated chemical constituents are not straightforward. Recently detected impacts from historical contamination found in the ground water at the Montana Power Company property located across Main Street from the City's landfilled areas are currently being evaluated by the state Superfund Program.

Following the public meeting held by the City on March 26, 1996 to discuss the Corrective Measures selection and alternatives for compliance with ground water enforcement standards, the Program approved a landfill gas extraction system to be located in the older landfill disposal area behind the YMCA. This gas extraction system will serve as the initial approach to ground water remediation at the relevant point of compliance (RPOC) for the more recently inactive (1994) landfill area. After two years of active gas extraction, including quarterly sampling for volatile

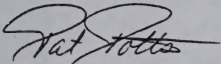
Ted Hill
Page 2
September 19, 1996

organic compounds (VOCs), the effectiveness of the remedy will be evaluated to determine if ground water remediation is proceeding at an efficient rate.

In talking with you on September 19, 1996, you explained to me that the City was in the process of selecting a design engineer for the landfill gas extraction system and that the request for proposals would close on September 27, 1996. You also were helpful in informing me about the status of the YMCA building's gas remediation plan. Apparently, installation/construction of the positive pressure system for the building has been completed and you are anticipating operation of the system in the near future.

The Program appreciates the update on remediation activities concerning the landfill. With regard to the ground water and the exceedances of enforcement standards (e.g., maximum contaminant levels), the facility remains under Corrective Measure Actions status and in the Assessment Monitoring Phase.

Sincerely,



Pat Potts
Environmental Specialist

cc: Steve Downs, Hydrometrics, Inc., 2727 Airport Road, Helena, MT 59601
Kim Milburn, City of Helena, 316 North Park Avenue, Helena, MT 59623
Bill Verwolf, City of Helena Manager, 316 N. Park Ave., Helena, MT 59624
Vivian Drake, City-County Building, 316 N. Park Ave., P.O. Box 1723, Helena, MT 59624

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file: Lewis & Clark Co./City of Helena Class II (inactive)/grd wtr (corresp)

September 19, 1996

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The Program anticipates the update on remediation activities concerning the landfill. With regard to the ground water and the enforcement of environmental standards (e.g., maximum contaminant levels) and facility remediation under Corrective Measure Actions and in the Assessment Monitoring Phase.

Sincerely,



Ted Hill

Environmental Specialist

Environmental Specialist
U.S. Environmental Protection Agency
Region 1
150 Water Street, Room 500
Boston, MA 02109
Phone: (617) 325-3800
Fax: (617) 325-3801

cc: [illegible]
[illegible]